BEST AVAII ABLE COPY

Sequence Listings

Sequence 1 - Human cDNA sequence of PARP-1

1 cgcccgccca gccccggggg cagggaaagc ctaaattacg gaattaccgc gagcaagga	~
61 cgcggaatcg gggagcgtcc ggagctagct ggatcotcta ggcaggatgg tgatgggaat	5
121 ctttgcaaat tgtatcttct gtttgaaagt gaagtactta cctcagcagc agaagaaaaa	
181 gctacaaact gacattangg aaaatggcgg aaagttitcc titicgttaa atcctcagtg	
241 cacacatata atcttagata atgctgatgt tctgagtcag taccaactga attctatcca	
301 aaagaaccac gttcatattg caaacccaga ttttatatgg aaatctatca gagaaaagag	
361 actettggat gtaangaatt atgateetta taageeeetg gacateacae eaceteetga	
421 tcagaaggcg agcagttotg nagtgaasac agaaggtcta tgcccggaca gtgccacaga	
481 ggaggaagac actgtggaac teactgagtt tggtatgcag aatgttgaaa tteeteatet	
541 tcctcaagat tttgaagttg caasatataa caccttggag aaagtgggaa tggagggagg	
OUL ccaggaaget grggrggrgg agetteagtg ttegegggae teeagggaet greetteet	
661 gatatectea cacttectee tegatgatgg catggagaet agaagacagt ttgetataaa	
721 gasaacctct gaagatgcaa gtgaatactt tgaasattac attgaagaac tgaagaasca	
/81 aggautera etaagagaac atticacace tgaagcaace caattagcat etgaacaatt	
641 gcaagcang chiiggagg angicatgaa ticangcaci cigagccaag aggigagega	
901 magragag argattiggg cagaggcoct gggccacctg gaacacatgc tictcaagcc	
901 agresacage attagectes acgatetese caaegeagag gegattetee ttetagtaas	
1021 ggcagcactg assasiggag asscagcaga gcaattgcas aagatgatga cagagtttta	
1081 Cagacigata cotcacaaag goacaatgoo caaagaagtg aacctgggac tattggotaa	
1141 gaaagcagac ctctgccagc taataagaga catggttaat gtctgtgaaa ctaatttetc	
1201 casacccaac ccaccatece tggccasata ccgagetttg aggtgcasaa ttgagcatgt	
1201 tgaacagaat actgaagaat tteteagggt tagaaaagag gttttgcaga atcateacag	
1321 taagageeea gtggatgtet tgeagatatt tagagttgge agagtgaatg aaaccacaga	
1381 gittitgage aaactiggta atgtgaggee citgtigeat ggtteteetg tacaanacat	
1441 cgtgggaaic ttgtgtcgag ggttgctttt acccaaagta gtggaagatc gtggtgtgca	
1501 aagaacagac gtcggaaacc ttggaagtgg gatttatttc agtgattcgc tcagtacaag	
1561 tatcaagtac tcacacccgg gagagacaga tggcaccaga ctcctgctca tttgtgacgt	
1021 agcccicgga aagtgtatgg acttacatga gaaggacttt teettaactg aagcaccacc	
1681 aggetaegae agtgtgeatg gagttteaca aacageetet gteaceacag aetttgagga	
1/41 tgatgaatti gitgtctata aaaccaatca ggttaaaatg aaatatatta ttaaatttic	
1801 catgoctgga gatcagataa aggacttica toctagtgat catactgaat tagaggaata	
1861 cagacetgag ttttcaaatt tttcaaaggt tgaagattac cagttaccag atgccaaaac	
1921 ttccagcage accaaggoog geeteeagga tgettetggg aacttggtte etetggagga	
1981 tgtccacate aaagggagaa teatagacae tgtageeeag gteattgttt tteagacata	
2041 cacasataaa agtcacgtgc ccattgaggc aasatatatc titicctttgg atgacaaggc	
2101 cgctgtgtgt ggcttcgaag ccttcatcaa tgggaagcac atagttggag agattaaaga	
2161 gaaggaagaa gcccagcaag agtacctaga agccgtgacc cagggccatg gcgcttacct	
2221 gatgagteag gatgeteegg aegttittae tgtaagtgit ggaaaettae eecetaagge	
2281 taaggitett ataaaaatta eetaeateae agaacteage ateetgggea etgitggtgt	
2341 ctititicatg coogcoaccg tagcaccotg goaacaggac aaggetttga atgaaaacct	
2401 tcaggataca gtagagaaga ttigtataaa agaaatagga acaaagcaaa gcttctcttt	

2461 gactatgtot attgagatge egtaegtgat tgaatteatt tteagtgata eteatgaact 2521 ganacanaag egeacagaet geanagetgt cattageace atgganggen geteettaga 2581 cagcagtgga titictetee acateggttt gtetgetgee tateteecaa gaatgtgggt 2641 tgaaaaacat ссадааааад ааадсдадде ttgcatgett gtettteaac cegatetega 2701 tgtcgacctc octgacctag ccaatgagag cgaagtgatt attigtctig actgctccag 2761 ttccatggag ggtgtgacat tottgcaagc caaggaaatc gccttgcatg cgctgtcctt 2821 ggtgggtgag aagcagaaag taaatattat ccagttcggc acaggttaca aggagctatt 2881 ttogtatect aagcatatea caagcaatae egeggeagea gagticatea tgtetgeeae 2941 acotaccatg gggaacacag acttetggaa aacacteega tatettaget tattgtacce 3001 tgctcgaggg tcacggaaca tcctcctggt gtctgatggg cacctccagg atgagagcot 3061 gacattacag ctogtgaaga ggagcogccc gcacaccagg ttattogcot gcggtategg 3121 ttctacagca aatogicacg tcttaaggat tttgtcccag tgtggtgecg gagtatttga 3181 atattttaat gcanaatcca agcatagttg gagnaaacag atagaagacc aaatgaccag 3241 getatgitet cegagitigee actetigiete egicaaatigg cageaactea atecagatige 3301 georgagged etgeagged cagocaggt geoatectig titegeastg ategactect 3361 tgtctnigga ticaticcic actgeaeaea ggeaactetg tgtgeaetaa ticaagagaa 3421 agantitigi acantggtgi egactaciga geticagang acanciggan etatgatoca 3481 caagetggea geeegagete taateagaga ttatgaagat ggeattette aegaaaatga 3541 авссадтся дадагдавая васаваест дваятстств аttattanc телдавада 3601 anactototo ataacacaat ttacaagctt tgtggcagtt gagaaaaggg atgagaatga 3661 gteacetttt eetgatatte caaaagttte tgaacttatt gecaaagaag atgtagaett 3721 cotgecctae atgagetgge agggggaace ceaagaagee gteaggaace agtetetttt 3781 agcatectet gagtggeeag aattaegitt atecaaaega aaacatagga aaatteeatt 3841 ttccannaga anaatggaat tatotoagee agaagtitet gaagattitg aagaggatge 3901 cttaggtgta ctaccagctt tcacatcaaa tttggaacgt ggacgtgtgg aaaagctatt 3961 ggatttaagt tggacagagt catgtaaacc aacagcaact gaaccactat ttaagaaagt 4021 cagtecatgg gaadcatcta ettetagett tittectatt tiggetcegg cegtiggite 4081 ctatcttace cegactacce gegeteacag teetgettee tigtettitg ceteatateg 4141 teaggiaget agittieggit eagetgetee teecagacag ittigatgeat etezatteag 4201 ccaaggeet gigeetggea ettgtgetga etggatecea eagteggegt ettgteeeae 4261 aggacciece cagaacceae ettetgeace etattgtgge attgttttt cagggagete 4321 attaagetet geacagtete etceaetgea acateetgga ggetttaeta ecaggeette 4381 tgctggcacc ttccctgage tggattetec ceagetteat ttctctcttc ctacagacce 4441 tgateceate agaggittig ggiettatea técetetget tacteteeti ticatitica 4501 accttecgea geetetttga etgecaacet taggetgeea atggeetetg etttacetga 4561 ggetettige agreagteec ggaetaccco agragatete tgtettetag aagaateagt 4621 aggcagicte gaaggaagte gatgteetgt etttgettit caaagttetg acacagaaag 4681 tgatgageta teagaagtae tteaagaeag etgettitta caaataaaat gtgatacaaa 4741 agatgacagt atcccgtgct ttctggaagt aaaagaagag gatgaaatag tgtgcacaca 4801 acactggcag gatgctgtgc cttggacaga actcctcagt ctacagacag aggatggctt 4861 ctggaaactt acaccagaac tgggacttat attaaatctt aatacaaatg gittgcacag 4921 ctttcttaaa caaaanggca ttcaatctct aggtgtaaaa ggaagagaat gtctcctgga 4981 cctaattgcc acaatgctgg tactacagtt tattcgcacc aggttggaaa aagagggaat 5041 agtgttcaaa tcactgatga aaatggatga cccttctatt tccaggaata ttccctgggc 5101 ttttgaggca ataaagcaag caagtgaatg ggtaagaaga actgaaggac agtacccatc 5161 tatotgocca oggottgaac tggggaacga otgggactot gocaccaagc agttgotggg 5221 actocagece ataageactg tgtecectet teatagagte etecattaea gteaaggeta

3/13

PCT/GB2004/003183

5281 agtcaaatga aactgaatti taaacttitt gcatgettet atgtagaaaa taatcaaatg 5341 ataatagata ottataatga aactteatta aggtiteatt eagtgtagea attactgtet 5401 ttaaaaatta agtggaagaa gaattaetit aateaactaa caageaataa taaaatgaaa 5461 ettaaaat

4/13

PCT/GB2004/003183

Sequence 2 - Human cDNA sequence of PARP-2

1 ctagaattca geggeogetg aattctagge ggegoggegg egaeggagea eeggeggegg 61 cagggcgaga gcattaaatg aaagcaaaag agttaataat ggcaacacgg ctccagaaga 121 ctcttcccot gccaagaaaa ctcgtagatg ccagagacag gagtcgaaaa agatgcctgt 181 ggctggagga наидствата аддасаддас адаадасаад саадатдата tgccaggaag 241 gtcatgggcc agcannaggg tctctgaatc tgtgaaggcc ttgctgttaa agggcanagc 301 teetgtggac ecagagtgta cagecaaggt ggggaagget eatgtgtatt gtgaaggaaa 361 tgatgtctat gatgtcatgc taaatcagac caatctccag ttcaacaaca acaagtacta 421 totgattcag ctattagaag atgatgccca gaggaacttc agtgtttgga tgagatgggg 481 ccgagttggg aaaatgggac agcacagcct ggtggcttgt tcaggcaate tcaacaagge 541 caaggaaate ttteagaaga aatteetiga caaaacgaaa aacaattggg aagategaga 601 anagtitgag anggtgcctg ganaatatga tatgctacag atggactatg ccaccaatac 661 tcaggatgaa gaggaaacaa aaaaagagga atctcttaaa tctcccttga agccagagtc 721 acagctagat cttogggtac aggagttaat aaagttgate tgtaatgtte aggecatgga 781 agasatgatg atggasatga agtatastac caagasagcc ccacttggga agctgacagt 841 ggcacaaato aaggcaggtt accagtotot taagaagatt gaggattgta ttogggotgg 901 ccagcatgga cgagctetea tggaagcatg caatgaatte tacaccagga tteegeatga 961 cttiggacte ogtaeteete cactaateeg gacacagaag gaactgteag aaaaaataca 1021 attactagag gctttgggag acattgaaat tgctattaag ctggtgaaaa cagagctaca 1081 aageccagaa cacccattgg accaacacta tagaaaccta cattgtgcct tgcgcccct 1141 tgaccatgaa agttacgagt tcaaagtgat ttcccagtac ctacaatcta cccatgotec 1201 cacacacage gactatacea tgacettget ggatttgttt gaagtggaga aggatggtga 1261 gaaagaagcc ttcagagagg accttcataa caggatgctt ctatggcatg gttccaggat 1321 gagtaactgg gtgggaatet tgagecatgg gettegaatt geceaecetg aageteceat 1381 cacaggitac atgittiggga aaggaateta etitigetgac atgitetteea agagtgeeaa 1441 ttactgcttt gcctctegee taaagaatac aggactgctg ctcttateag aggtagetet 1501 aggtcagtgt aatgaactac tagaggccaa tectaaggee gaaggattge tteaaggtaa 1561 acatageace aaggggetgg geaagatgge teccagttet geceactteg teaceetgaa 1621 tgggagtaca gtgccattag gaccagcaag tgacacagga attctgaatc cagatggtta 1681 taccctcaac tacaatgaat atattgtata taaccccaac caggteegta tgeggtacct 1741 tttaaaggtt cagittaatt teetteaget giggtgaatg tigatettaa ataaaceaga 1801 gatctgatct tcaagcaaga aastaagcag tgttgtactt gtgaatttig tgatattita 1861 tgtaataaaa actgtacagg tсtааааааа валаяааааа ааааааааааа

Sequence 3 - Human cDNA sequence of PARP-3

5/13

1 tgggactggt cgcctgactc ggcctgcccc agcctctgct tcaccccact ggtggccaaa 61 tageogatgt etaateecce acaeaagete ateceeggee totgggattg ttgggaatte 121 tetecetaat teaegeetga ggeteatgga gagttgetag acetgggact geeetgggag 181 gogcacacaa ccaggeoggg tggcagccag gaoctetece atgtecetge ttttettgge 241 catggctcca aagccgaagc cctgggtaca gactgagggc cctgagaaga agaagggccg 301 gcaggcagga agggaggagg acceptteg etecaceget gaggecetea aggecatace 361 cgcagagaag cgcataatec gegtggatec aacatgteca etcagcagoa acccegggac 421 ccaggtgtat gaggactaca actgcaccot gaaccagacc aacatcgaga acaacaacaa 481 caagtictac atcatecage tgetecaaga cageaacege ttetteacet getggaaceg 541 ctggggocgt gtgggagagg tcggccagtc aaagatcaac cacttcacaa ggctagaaga 601 tgcasagaag gactttgaga agasattteg ggaaaagacc sagascaact gggcagageg 661 ggaccactti gtgtctcacc сgggcaagta cacacttatc gaagtacagg cagaggatga 721 ggcccaggaa gctgtggtga aggtggacag aggcccagtg aggactgtga ctaagcgggt 781 geagecetge tecetggace cagecaegea gaageteate actaseatet teageaagga 841 gatgticaag aacaccatgg coctcatgga cotggatgtg aagaagatgc coctgggaaa 901 gctgagcaag caacagattg cacggggttt cgaggccttg gaggcgctgg aggaggcct 961 gaaaggeece acggatggtg gecaaageet ggaggagetg teeteacact tttacacegt 1021 catecegoae aactteggee acagecagee ecegeceate aatteeetg agettetgea 1081 ggccaagaag gacatgctgc tggtgctggc ggacatcgag ctggcccagg ccctgcaggc 1141 agtototgag caggagaaga cggtggagga ggtgccacac cccctggacc gagactacca 1201 getteteaag tgecagetge agetgetaga etetggagea eetgagtaca aggtgataca 1261 gacctactta gaacagactg geageaacea caggtgeeet acaetteaac acatetggaa 1321 aginaaccaa gaaggggagg aagacagatt ccaggcccac tccaaactgg gtaatcggaa 1381 gctgctgtgg catggcacca acatggccgt ggtggccgcc atcctcacta gtgggctccg 1441 catcatgcca cattetggtg ggcgtgttgg caagggcate tactttgcct cagagaacag 1501 caagtcagct ggatatgtta tiggcatgaa gtgtggggcc caccatgtog gctacatgtt 1561 cetgggtgag gtggccetgg geagagagea ceatateaac aeggacaace eeagettgaa 1621 gageceacet eetggetteg acagtgteat tgeeegagge caeacegage etgateegae 1681 ccaggacact gagttggagc tggatggcca gcaagtggtg gtgccccagg gccagcctgt 1741 gecetgeeca gagtteagea getecacatt eteccagage gagtacetea tetaceagga 1801 gagccagtgt ogcctgcgct acctgctgga ggtccacctc tgagtgcccg ccctgtcccc 1861 eggggteetg caaggetgga etgtgatett caateateet geceatetet ggtaceeta 1921 tateacteet ttititeaag aatacaatae gitgtigtta actatagiea eeatgetgta 1981 caagateeot gaacttatge etectaactg aaattitgta ttetttgaca catetgeeca 2041 gtccctctcc teccagecca tggtaaccag cattigactc tttacttgta taagggcage 2101 tittataggt tecacaigta agigagaica igeagigiti giciticigi geetggetta 2161 tttcactcag cataatgtgc accgggttca cccatgtttt cataaatgac aagattteet 2221 ссіітявала винавання ванинавала валалалана вин

Sequence 4 - Human gDNA sequence of Tankyrase 1

1 cgaagatege ggegtegegt egeteteage ateateacea ceateateaa caacagetee 61 agecegecoe aggggettea gegeegeege egecacetee teccecacte agecetggee 121 tggcccggg gaccaccca geeteteeca oggccagegg cetggceece ttegeeteec 181 egeggeacgg cetagegetg coggaggggg atggeagteg ggateegeec gacaggeece 241 gateccogga cocgettgae ggtaccaget gttgcagtac caccagcaca atotgtaceg 301 tegeogeogo tecegtggte ocagoggttt etaetteate tgeogetggg gtegetecea 361 acccageogg dagtggcagt ascaattcao ogtogtocto ttottocoog acttottoct 421 catettecte fécatéctée entggatega geltggegga gagéccegag geggeeggag 481 ttagcagcac agcaccactg grégoctgggg cagcaggacc tgggacaggg gtoccagcag 541 tgagoggggo octacgggaa ctgotggagg cotgtogcaa tggggacgtg tcccgggtaa 601 agaggetégi egacgeggea aacgtaaatg casaggacat ggeoggeogg aagtettete 661 ccctgcaott cgctgcaggt tittggaagga aggatgitgt agaacactta ctacagatgg 721 gtgotaatgt ceacgetegt gargatggag gteteatece getteataat geetgttett 781 ttggccatgc tgaggttgtg agtctgttat tgtgccaagg agotgatcca aatgccaggg 841 ataactggaa ctatacacct ctgcatgaag ctgctattaa agggaagatc gatgtgtgca 901 tigtgetget geageaegga getgaeecaa acatteggaa caetgatggg aaateageee 961 tégacotgée ágatoctica goazaagotg toottacagg tgaatacaag asagacgaac 1021 tectagaage tgotaggagt ggtaatgaag aaaaaetaat ggetttaetg acteetetaa 1081 atgigaatig ceatgeaagt gatgggegaa agtegactee titacateta geageggget 1141 acaacagagt tegaátagti cagettétte ticageatgg tgetgatgit catgeaaaag 1201 acasaggtgg actigtgect citicatantg catgitcata tggacattat gaagtcacag 1261 aactgetaet aaageatgga gettigtgtta atgecatgga tetetggeag titacteeac 1321 tgcacgaggo tgcticcang naccgtgtag aagtetgete titigitaett agcentggeg 1381 ctgatectae gittagicado fgecatggea anagtgetgt ggatatgget conacteegg 1441 ağóttaggga gagattgacı falgaaftta anggteafte ittactacaa geagecagag 1501 aagcagactt agctaaagtt aaasaasacac tegetetgga aatcattaat tteaaacaac 1561 cécagtetea tigaaacagea etgeactete etgeacee tetgeatece aaacetaaac 1621 aagtgacaga attgttactt agaaaaggag caaatgttaa tgaaaaaaat aaagatttca 1681 tgaetecect geatgitgea geograaging eccataatga tgteatggaa gitetgeata 1741 agcatggege caagatgaat geactggaca ceettggtea gactgettig catagageeg 1801 cectageagg ceacetgeag acctgeegee teetgetgag thaeggetet gaececteea 1861 teateteeff acaaggette acagcageae agatgggeaa tgaagcagtg cagcagatte 1921 tgagtgtgag ttacggctct gacccctcca teatctcctt acaaggcttc acagcagcac 1981 agatgggcaa tgaagcagtg cagcagattc tgagtggtca ttcgtagata gtgatcattc 2041 tacticagee ttaatggtga tettgagaeg ggaagattta gaaggaaate tateeageat 2101 gtetteactg teaacatgaa gagtacacet ataegtaett etgatgttga ttategaete 2161 ttagaggeat ctaaagetgg agaettggaa actgtgaage aactttgeag eteteaaaat 2221 gtgaattgta gagacttaga gggccggcat tccacgccct tacacttcgc agcaggctac 2281 aacagagtac acctatacgt acttctgatg ttgattatcg actcttagag gcatctaaag 2341 ctggagactt ggaaactgtg aagcaacttt geagetetea aaatgtgaat tgtagagact 2401 tagagggccg geattecacg coettacact tegeageagg ctacaacege gtgtetgttg 2461 tagagtaect getacaccae ggtgeegatg tecatgeeaa agacaagggt ggettggtge 2521 ecetteataa tgeetgttea tatggacaet atgaggtgge tgagetttta gtaaggeatg 2581 gggcttetgt eastgtggeg gacitatgga aatttacccc tetecatgaa geageageta

. :

٠,

PCT/GB2004/003183

WO 2005/012305

7/13

2641 aaggaangta tgaantetge aageteettt taasacatgg agcagateea actannaaga 2701 acagagatgg aaatacacct ttggatttgg taaaggaagg agacacagat attoaggact 2761 tactgaaagg ggatgctgct ttgttggatg ctgccaagaa gggctgcctg gcaagagtgc 2821 agaagetetg taccccagag aatatcaact geagagaeae ceagggeaga aattcaacee 2881 ctctgcacct ggcagcaggc tataataacc tggaagtagc tgaatatctt ctagagcatg 2941 gagotgatgt taatgeecag gacaagggtg gtttaattee tetteataat geggeatett 3001 atgggcatgt tgacatagcg gctttattga taaaatacaa cacgtgtgta aatgcaacag 3061 ataagigggo gittactccc ciccatgaag cagcccagaa aggaaggacg cagctgtgcg 3121 coctoctoct agegeatget geagaccoca ceatgaagaa ceaggaagge cagacgeete 3181 tggatcigge aacagetgac gatatcagag ctttgetgat agatgecatg cccccagagg 3241 cettacetae etgttttaan ecteaggeta etgtagtgag tgeetetetg ateteaceag 3301 catecacce etectgeete teggetgeca geageataga caaceteact ggeeetttag 3361 cagagtigge egtaggagga geetecaatg caggggatgg egeegeggga асадавадда 3421 agganggaga agttgctggt cttgacatga atatcagcca atttctaaaa agcettggcc 3481 ttgaacacct togggatate titgaaacag aacagattac actagatgtg ttggctgata 3541 tegetcatea agaetteasa gaaataggca tcaatecata tegecaccec cacaaattaa 3601 tcanaggagt agaaagacte ttaggtggac aacaaggeac caatcettat ttgactttte 3661 actgtgttaa tcagggaacg attitgctgg atcitgctcc agaagataaa gaatatcagt 3721 cagtegaaga agagatgeaa agtactatte gagaacacag agategtegt aatgetegeg 3781 gcatcticaa cagatacaat gtcattcgaa ttcaaaaagt tgtcaacaag aagtigaggg 3841 ageggitetg ceacegacag aaggaagtgt etgaggagaa teacaaceat cacaatgage 3901 geatgitight teatggitet cetticatta atgccattat teataaaggg titgatgage 3961 gacatgcata cataggagga atgtttgggg ccgggattta ttttgctgaa aactectcaa 4021 anagcaaoca atatetttat ggaattegag gaggaacagg otgocctaca cacaaggaca 4081 ggtcatgcta tatatgtcac agacaaatgc tettetgtag agtgaccett gggaaatect 4141 ttetgeagtt tageaceatg anaatggeec aegégeetee agggeaceae teagteattg 4201 gtagaccgag cgtcaatggg ctggcatatg ctgaatatgt catctacaga ggagaacagg 4261 catacccaga giatottate actiaccaga toatgaagee agaageeeet teccagaceg 4321 cancageege agageagaag acctagtgaa tgeetgetgg tgaaggeeag atcagattte 4381 aacctgggac tggattacag aggattgitt ctaataacaa catcaatatt ctagaagtee 4441 ctgscagcct agaaataagc tgtttgtctt ctataaagca ttgctatagt g

PCT/GB2004/003183

WO 2005/012305

8/13

Sequence 5 - Human mRNA sequence of Tankyrase 2

1 egegeegeet egetageega aacetgeeea geeggtgeee ggecaetgeg eaegegggg 61 acgaegteac gtgegeteec ggggetggae ggagetggea ggaggggeet tgeeagette 121 cgccgcogcg tegtttcagg acccggacgg cggattcgcg ctgcctccgc cgccgcgggg 181 cagcoggggg gcagggagec cagcgagggg cgcgcgtggg cgcggccatg ggactgcgcc 241 ggatccggtg acagcaggga gccaagcggc ccgggccctg agogcgtctt ctccgggggg 301 cctcgccctc ctgctcgcgg ggccggggct cctgctccgg ttgctggcgc tgttgctggc 361 tgtggeggg gecaggatea tgtegggteg cegetgegee ègeégggag eggettgege 421 gagegeegog geogaggeeg tggageege egecegagag etgttegagg egtgeegeaa 481 cggggaogtg gaacgagtca agaggctggt gacgcctgag aaggtgaaca gccgcgacac 541 ggcgggagg aaatccaccc cgctgcactt cgccgcaggt tttgggcgga aagacgtagt 601 tgaatatttg cttcagaatg gtgcaaatgt ccaagcacgt gatgatgggg gccttattcc 661 tetteatnat geatgetett tiggtentge tgaagtagte aateteetti tgegacatgg 721 tgcagacccc aatgctcgag ataattggaa tratactcct ctccatgaag ctgcaattaa 781 aggaaagatt gatgittigea ttgtgetgit acageatgga getgageeaa ecatoogaaa 841 tacagatega aggacageat tegatttago agatecatet gecaaageag teettacteg 901 tgaatataag aaagatgaac tottagaaag tgccaggagt ggcaatgaag aaaaaatgat 961 ggetetacto acaccattaa atgicaactg ceaegeaagt garggeagaa agteaactee 1021 attacattig gcagcaggat ataacagagt aaagattgta cagcigitac tgcaacatgg 1081 agetgatgio catgetasag atasaggtga tetggtacea itacacaatg cetgticita 1141 tegtcattat gaagtaacte aacttitegt caagcategt geetgtetaa atgeaatega 1201 cttgtggcaa tteactecte tteatgagge agettetaag aacagggtig aagtatgtte 1261 tettetetta agitaiggtg cagacceaac actgeteaat tgicacaata aaagtgetat 1321 agactigget eccacaccac agitananga aagatingen tatgaattia aaggeeacte 1381 gitgetgeaa getgeaegag aagetgatgt tactegaate saaaaacate tetetetgga 1441 aatggtgaat ticaagcate etcaaacaca tgaaacagca ttgcattgtg ctgcate 1501 tecatatece azzaguage azatatgtga actgitgeta agazzaaggag caaacateaa 1561 tgaaaagact aaagaattet tgactectet geaegtggea tetgagaaag eteataatga 1621 tettettesa gtagtegtea aacatenage aaagettaat ectetegata atottegtea 1681 gactteteta caeagagetg catattgtgg teatetacaa acetgeegee taeteetgag 1741 ctatgggtgt gatectaaca ttatateeet teagggettt aetgetttae agatgggaaa 1801 tgaasatgta cagosactoo tocsagaggg tatotostta ggtaattoag aggosgacag 1861 acaattgctg gaagctgcaa aggctggaga tgtcgaaact gtaaaaaaac tgtgtactgt 1921 teagagtgte aactgeagag acattgaagg gegteagtet acaccactte attttgeage 1981 tgggtataac agagtgtcog tggtggaata tctgctacag catggagctg atgtgcatgc 2041 taaagataaa ggaggcettg tacettigca caatgcatgt tettatggac attatgaagt 2101 tgcagaactt cttgttaaac atggagcagt agttaatgta gctgatttat ggaaatttac 2161 accittacat gaagcagcag caaaaggaaa atatgaaatt tgcaaacttc tgctccagca 2221 tggtgcagae cetacaaaaa aaaacaggga tggaaatact cetttggate ttgttaaaga 2281 tggagataca gatattcaag atctgcttag gggagatgca gctttgctag atgctgccaa 2341 gaagggttgt ttagccagag tgaagaagtt gtcttctcct gataatgtaa attgccgcga 2401 tacccaagge agacattcaa cacctitaca titagcaget ggitataata atitagaagt 2461 tgcagagtat ttgttacaac acggagctga tgtgaatgcc caagacaaag gaggacttat 2521 teettiaeat aatgeageat ettaegggea tgtagatgta geagetetae taataaagta 2581 taatgeatgt gteaatgeea eggacaaatg ggettteaca cetttgeacg aageageeca

PCT/GB2004/003183

WO 2005/012305

9/13

2641 aaagggacga acacagcttt gtgctttgtt gctagcccat ggagctgacc cgactcttaa 2701 aaatcaggaa ggacaaacac ctttagattt agtttcagca gatgatgtca gcgctcttct 2761 gacageagee atgececcat etgetetgee etettgitae aageeteaag tgeteaatgg 2821 tgtgagaage ccaggageca etgeagatge tetetettea ggtecateta geccateaag 2881 cetttetgea geeageagte ttgacaactt atetgggagt titteagaac tgtetteagt 2941 agttagtica agtggaacag agggtgctic cagttiggag aaaaaggagg ticcaggagt 3001 agatittago ataactcaat tegtaaggaa tettggaett gageacetaa tggatatatt 3061 tgagagagaa cagatcactt tggatgtatt agttgagatg gggcacaagg agctgaagga 3121 gattggaatc aatgcttatg gacataggca canactaatt aaaggagtcg agagacttat 3181 ctccggacaa caaggtetta acceatattt aactttgaac acctctggta gtggaacaat 3241 tettatagat etgteteetg atgataaaga gttteagtet gtggaggaag agatgeaaag 3301 tacagticga gagcacagag atggaggtca tgcaggtgga atcttcaaca gatacaatat 3361 teteaagatt cagaaggttt gtaacaagaa actatgggaa agatacaete accggagaaa 3421 agaagtitet gaagaaaacc acaaccatge caatgaacga atgetatite atgggtetee 3481 tittgtgaat gcaattatcc acaaaggett tgatgaaagg catgegtaca taggtggtat 3541 gittggaget ggcatitatt tigetgaaaa etetteeaaa ageaateaat atgtatatgg 3601 aattggagga ggtactgggt gtccagttca canagacaga tcttgttaca tttgccacag 3661 gcagctgete tittgeeggg taacettggg aaagtettte etgeagttea gtgeaatgaa 3721 aatggeacat teteeteeag gteateacte agteaetggt aggeecagtg taaatggeet 3781 agcattaget gaatatgita titacagagg agaacagget tateetgagt atttaattae 3841 ttaccagatt atgaggcctg aaggtatggt cgatggataa atagttattt taagaaacta 3901 attecactga acctaaaate atcaaageag cagtggcete taegttttae teetttgetg 3961 авазаваате atetigecea caggeetgtg geasaaggat азазатдтва асдаадтта 4021 acattetgae ttgataaage tttaataatg tacagtgttt tetaaatatt teetgttttt 4081 tcagcacttt aacagatgcc attccaggtt aaactgggtt gtctgtacta aattataaac 4141 agagttaact tgaacctttt atatgttatg cattgattet aacaaactgt aatgecetea 4201 acagaactaa tittactaat acaatactgt gttctttaaa acacagcatt tacactgaat 4261 acaatitcat tigtaaaact giaaataaga getiitigtae tageeeagta titatitaea 4321 ttgctttgta atataaatet gtittagaac tgcagcggtt tacaaaatit tttcatatgt 4381 attigiticate tataciticat citacategi catgatigag tgatettiae attigatice 4441 agaggetatg tteagttgtt agttgggaaa gattgagtta teagatttaa tttgeegatg 4501 ggagcettta tetgicatta gaaatettte teatttaaga aettatgaat atgetgaaga 4561 titaatitigi gataccittig tatgiatgag acacatteca aagageteta actatgatag 4621 giccigatta ctaaagaage tiettiaetg geeteaatti etagettiea igitggaaaa 4681 ttttctgcag teettetgtg aasattagag caaagtgete etgttittta gagaaactaa 4741 atcttgctgt tgaacaatta tigtgttctt ticatggaac ataagtagga tgttaacatt 4801 tecagggigg gaagggtaat cotasateat tteceaatet attetaatta cettaastet 4861 анадердана зазавалится санасаддае tgggtagttt tttatectan gtatatttit 4921 teetgttett titaetiggt titatigetg tatttatage caatetatae ateatgggta 4981 aacttaaccc agaactataa aatgtagttg tttcagtccc cttcaggcct cctgaatggg 5041 caagigcagt gaaacaggig citccigcte cigggittic telecatgat gitatgecea 5101 attggaaata tgctgtcagt ttgtgcacca tatggtgacc acgcctgtgc tcagtttggc 5161 agetatagaa ggaaatgetg teccataaaa tgecateeet attictaata taacaetett 5221 ttccaggaag catgettaag catcttgtta cagagacata catccattat ggettggcaa 5281 totottitat itgitgacte tageteeett caaagtegag gaaagatett tacteaetta 5341 atgaggacat tececateae tgtetgtace agtteaeett tattttaegt tttatteagt 5401 ctgtaaatta actggccctt tgcagtaact tgtacataaa gtgctagaaa atcatgttcc

10/13

PCT/GB2004/003183

5461 tigiccigag taagagitaa toagagiaag igcatticig gagitigitic igigaigiaa	
5521 attatgatca ttatttaaga agtcaaatoc tgatcttgaa gtgcttttta tacagctctc	
5581 taataattao anatatooga aagtoattio tiggaacaca agtggagtat goosaattii	t
5641 atatgaattt ticagattat ctaagcticc aggittiata attagaagat aatgagagaa	-
5701 thatggggt thataittac attatetete aactatgtag eccatattae teacectatg	
.5761 agtgaatetg gaattgetti teatgtgaaa teattgtggt otatgagtti acaatactge	
5821 asactgtgtt attitateta aaccattgct taatgagtgt gttittecat gaatgaatat	
5881 accepted at a state of the second secon	
5941 tegegetting gegegegegegegegegegetattagt acettegeate gaatagecta cittataa	ıtı
6001 atgggaatge titttetitt gittigggat tittititt gaagtgaaat ttaacttit	
6061 gtgccagtag tactattata cccatcttca gtgtcttact tgtactgtat caaattccat	
6121 acceteatti aattettaat aaaactgite aetigtaaaa ааааааааа авааааааа	8
6181 аааааааа	

11/13

PCT/GB2004/003183

Sequence 6- Human mRNA sequence of VPARP

1 ogcccgocca gccccggggg cagggaaagc ctaaattacg gaattaccgc gagcaaggag 61 cgcggaatcg gggagcgtcc ggagctagct ggatcctcta ggcaggatgg tgatgggaat 121 cittigeaaat tgiatettet gittigaaagt gaagtaetta ceteageage agaagaaaaa 181 getacaaact gacattaagg aanatggegg anagttitee ttttegitaa ateeteagtg 241 cacacatata atettagata atgetgatgt tetgagteag taccaactga attetateca 301 авадвассае giteatattg савассевда tittatatgg вавастатся двазавадад 361 actettggat granagnatt atgateetta tangeceetg gacateacae eaceteetga 421 teagaaggeg agcagttetg aagtgaaaac agaaggteta tgeceggaca gtgecacaga 481 ggaggaagac actgtggaac tcactgagtt tggtatgcag aatgttgaaa ttcctcatct 541 tecteangai tttgangttg caasatataa cacettggag anagtgggaa tggagggagg 601 ccaggaaget gtggtggtgg agetteagtg ttegegggae tecagggaet gteettteet 661 gatatectea caettectee tggatgatgg catggagaet agaagaeagt ttgetataaa 721 ganancetet gangatgean gtgantaett tgannattae attgangane tganganaen 781 aggattteta etaagagase attteacace tgaagcaace caaltageat etgaacaatt 841 gcaagcattg cittiggagg aagtcatgaa itcaagcact ctgagccaag aggtgagcga 901 titagtagag atgattiggg cagaggecct gggccacctg gaacacatge ticteaagce 961 agigaacagg attagectea acgaitgtgag caaggeagag gggattetee tictagfaaa 1021 ggcagoactg aaaaatggag aaacagcaga gcaattgcaa aagatgatga cagagtttta 1081 cagactgata ecteacanag generatgee canagnagig anectgage tattggetan 1141 ganageagae etetgeeage taataagaga catggttaat gtetgtgaaa etaatttgte 1201 caaacccaac ccaccatece tggccaaata ccgagctttg aggtgcaaaa ttgagcatgt 1261 tgaacagaat actgaagaat ttetcagggt tagaaaagag gitttgcaga atcatcacag 1321 taagagecca gtggatgict tgcagatati tagagttggc agagtgaatg aaaccacaga 1381 gtttttgage aaacttggta atgtgaggee ettgttgeat ggtteteetg tacaaaacat 1441 cgtgggaate ttgtgtegag ggttgetttt acceaaagta gtggaagate gtggtgtgea 1501 aagaacagac gtcggaaacc ttggaagtgg gatttatttc agtgattcgc tcagtacaag 1561 tatcaagtac tcacaccegg gagagacaga tggcaccaga ctcctgctca tttgtgacgt 1621 agecetegga aagtgiatgg acttacatga gaaggacttt ceettaactg aagcaccaec 1681 aggetacgae agtgtgeaig gagttteaca aacageetet gteaceacag actttgagga 1741 tgatgaatti gttgtctata aaaccaatca ggttaaaatg aaatatatta ttaaattitc 1801 catgcctgga gatcagataa aggactttca tectagtgat catactgaat tagaggaata 1861 cagacetgag titicaaatt titeaaaggt tgaagattae cagitaceag atgecaaaac 1921 ttecageage accaaggeeg geeteeagga tgeetetggg aacttggtte etetggagga 1981 tgtccacate авадддадав teatagacae tgtageceag gtcattgttt ttcagacata 2041 cacasatesa agteacgtge ecattgagge assatatate titeettigg atgacaagge 2101 cgctgtgtgt ggcttcgaag ccttcatcaa tgggaagcac atagttggag agattaaaga 2161 gaaggaagaa geccagcaag agtacetaga ageegtgace cagggecatg gegettacet 2221 gatgagteag gatgeteegg aegttittae tgtaagtgtt ggaaacttae eccetaagge 2281 taaggttett ataassatta eetacateae agaacteage ateetgggea etgttggtgt 2341 ctttttcatg eccgccaccg tagcaccetg gcaacaggac aaggettiga atgaaaacet 2401 tcaggataca gtagagaaga ttigtataaa agaaatagga асааадсааа gctictcttt 2461 gactatgtct attgagatgc cgtatgtgat tgaattcatt ttcagtgata cacatgaact 2521 gaancaaaag ogcacagact gcanagotgt cattagcaco atgganggca gotoottaga

12/13

PCT/GB2004/003183

2581 cagcagtega tittetetee acateggtit gtetgetgee tateteecaa gaatgtggg 2641 tgaaaaacat ccagaaaaag aaagogagge ttgcatgett gtetiteaac cogatetega 2701 tgtcgacctc cotgacctag ccagtgagag cgaagtgatt atttgtcttg actgctccag 2761 ttccatggag ggtgtgacat tcttgcaagc caagcaaatc accttgcatg cgctgtcctt 2821 ggtgggtgag aagcagaaag taaatattat ccagttcggc acaggttaca aggagctatt 2881 ttegtateet aageatatea caageaatae eaeggeagea gagtteatea tgtetgeeae 2941 acctaccatg gggaacacag actictggaa aacactccga tatcttaget tattgtaccc 3001 tectogaggg teaeggaaca tectectegt gtetgatggg cacetecagg atgagageet 3061 gacattacag ctcgtgaaga ggagccgccc gcacaccagg ttattcgcct gcggtatcgg 3121 ttctacagca aategteacg tettaaggat tttgteecag tgtggtgeeg gagtatttga 3181 atatittaat gcaaaatcca agcatagtig gagaaaacag atagaagacc aaatgaccag 3241 getatgttet cegagttgce actetgtete egteaaatgg cagcaactea atecagatge 3301 georgaggee etgeaggeee cageceaggt gecateettg titegeaatg ategaeteet 3361 tgtctatgga ttcattcctc actgcacaca agcaactetg tgtgcactaa ttcaagagaa 3421 agantttigt acantegetet centralen gettengang acantegena etatgateen 3481 caagetegea gecegagete taateagaga ttatgaagat ggeattette aegaaaatga 3541 aaccagteat gagatgaaaa aacaaacett gaaatetetg attattaaac teagtaaaga 3601 aaactototo ataacacaat ttacaagett tgtggcagtt gagaaaaggg atgagaatga 3661 gtogoctitt cotgatatic caasagtite tgaacttatt gccasagaag atgtagactt ... 3721 octgocctac atgagetgge agggggagec ccaagaagec gtcaggaacc agtetettt 3781 agcatectet gagtggccag aattacgttt atccaaacga aaacatagga aaattecatt 3841 ticcaaaaga aaaatggaat tatctcagcc agaagttict gaagattitg aagaggatgg 3901 cttaggtgta ctaccagctt tcacatcaaa tttggaacgt ggaggtgtgg aaaagctatt 3961 ggatttaagt tggacagagt catgtaaacc aacagcaact gaaccactat ttaagaaagt 4021 cagtecateg gasacateta ettetagett tittectatt tiggeteegg cegtiggite 4081 chatchtace cogactacce gegeteacag teetgettee tigtettitig exteatateg 4141 teaggraget agutteggit eagetgetee teecagacag titgatgeat etcaatteag 4201 ccaaggeeet gtgeetggea citgtgetga etggateeea cagteggegt citgteeeae 4261 aggacotoco cagaacocae citetgeace ciaitgigge attgittit cagggagete 4321 attaagetet geacagtetg etecaetgea acateetgga ggetttaeta eeaggeette 4381 tgctggcace ticectgage tggattetee ecagetteat tictetette etacagacce 4441 tgateceate agaggittig ggtettatea teeetetget tacteteeti tteatittea 4501 accitecgea geetetitga etgecaacci taggetgeea atggeetetg cittacetga 4561 ggctctttgc agtcagtccc ggactacccc agtagatctc tgtcttctag aagaatcagt 4621 aggeagtete gaaggaagte gatgteetgt etttgetttt caaagttetg acacagaaag 4681 tgatgageta teagaagtae ticaagacag etgettitta caaataaagt gtgatacaaa 4741 agatgacagt atcccgtgct ttctggaatt aaaagaagag gatgaaatag tgtgcacaca 4801 acactggcag gatgctgtgc cttggacaga actcctcagt ctacagacag aggatggctt 4861 ctggaaactt acaccagaac tgggacttat attaaatctt aatacaaatg gttigcacag 4921 ctticttaaa caaaaaggea ticaatetet aggigtaaaa ggaagagaat gieteetega 4981 cotaattgcc acaatgctgg tactacagtt tattcgcacc aggitggaaa aagagggaat 5041 agtgttcaaa teactgatga aaatggatga eeettetatt teeaggaata tteeetggge 5101 ttitgagges atsaageaag caagtgaatg ggtaagaaga actgsaggae agtacceate 5161 tatetgeeca eggettgaae tggggaaega etgggaetet geeaecaage agttgetggg 5221 actocagece ataageactg tgtococtet teatagagte etecattaea gteaaggeta 5281 agtcaaatga aactgaatti taaactttit gcatgcttct atgtagaaaa taatcaaatg 5341 ataatagata attataatga aacttoatta aggtitoatt cagtgtagca attactgtot

13/13

PCT/GB2004/003183

5401 ttasaaatta agtggaagaa gaattacttt aatcaactaa caagcaataa taaaatgaaa 5461 cttasaataa aaaaaaaaaa aaaaaaaaa